SLOVENSKI STANDARD
SIST EN 61812-1:2011

01-oktober-2011

Nadomešča:
SIST EN 116000-2:2002
SIST EN 61812-1:1999
SIST EN 61812-1:1999/A11:2000

Časovni releji za rabo v industriji in bivališčih - 1. del: Zahteve in preskusi

Time relays for industrial and residential use - Part 1: Requirements and tests

Ta slovenski standard je istoveten z: **EN 61812-1:2011**

ICS:

29.120.70	Releji	Relays

SIST EN 61812-1:2011 **en,fr**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61812-1

August 2011

ICS 29.120.70

Supersedes EN 61812-1:1996 + corr. Feb.1999 + A11:1999, EN 116000-2:1992

English version

Time relays for industrial and residential use - Part 1: Requirements and tests

(IEC 61812-1:2011)

Relais à temps spécifié pour applications industrielles et résidentielles - Partie 1: Exigences et essais (CEI 61812-1:2011)

Zeitrelais (Relais mit festgelegtem Zeitverhalten) für industrielle Anwendungen und für den Hausgebrauch - Teil 1: Anforderungen und Prüfungen (IEC 61812-1:2011)

This European Standard was approved by CENELEC on 2011-06-29. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

The text of document 94/324/FDIS, future edition 2 of IEC 61812-1, prepared by IEC TC 94, All-or-nothing electrical relays, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61812-1 on 2011-06-29.

This European Standard supersedes EN 61812-1:1996 + corrigendum February 1999 + A11:1999 and EN 116000-2:1992.

EN 61812-1:2011 includes the following significant technical changes with respect to EN 61812-1:1996:

– update of references;

– addition of terms and definitions more commonly used by industry;

– addition of timing charts to help explain terms and definitions involving a sequence of events;

– renumbering of clauses to bring them into a more logical order;

– addition of provisions for residential use.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

The following dates were fixed:

– latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2012-03-29

– latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2014-06-29

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and covers essential requirements of EC Directive (2004/108/EC). See Annex ZZ.

Annexes ZA and ZZ have been added by CENELEC.

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Endorsement notice

The text of the International Standard IEC 61812-1:2011 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60060-1:2010	NOTE Harmonized as EN 60060-1:2010 (not modified).
IEC 60068-2-78:2001	NOTE Harmonized as EN 60068-2-78:2001 (not modified).
IEC 60664-4:2005	NOTE Harmonized as EN 60664-4:2006 (not modified).
IEC 60669-2-3:2006	NOTE Harmonized as EN 60669-2-3:2006 (not modified).
IEC 60721-3-3:1994	NOTE Harmonized as EN 60721-3-3:1995 (not modified).
IEC 60730-2-7:2008	NOTE Harmonized as EN 60730-2-7:2010 (modified).
IEC 60947-1:2007	NOTE Harmonized as EN 60947-1:2007 (not modified).
IEC 60947-5-1:2003	NOTE Harmonized as EN 60947-5-1:2004 (not modified).
IEC 61180-1:1992	NOTE Harmonized as EN 61180-1:1994 (not modified).

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 60050-444	2002	International Electrotechnical Vocabulary - Part 444: Elementary relays	-	-
IEC 60050-445	2010	International Electrotechnical Vocabulary - Part 445: Time relays	-	-
IEC 60068	Series	Environmental testing	EN 60068	Series
IEC 60068-2-2	2007	Environmental testing - Part 2-2: Tests - Test B: Dry heat	EN 60068-2-2	2007
IEC 60068-2-6	2007	Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6	2008
IEC 60068-2-27	2008	Environmental testing - Part 2-27: Tests - Test Ea and guidance: Shock	EN 60068-2-27	2009
IEC 60085	2007	Electrical insulation - Thermal evaluation and designation	EN 60085	2008
IEC 60112	2003	Method for the determination of the proof and the comparative tracking indices of solid insulating materials	EN 60112	2003
IEC 60529	1989	Degrees of protection provided by enclosures (IP Code)	EN 60529 + corr. May	1991 1993
IEC 60664	Series	Insulation coordination for equipment within low-voltage systems	EN 60664-1	Series
IEC 60664-1	2007	Insulation coordination for equipment within low-voltage systems - Part 1: Principles, requirements and tests	EN 60664-1	2007
IEC 60664-3	2003	Insulation coordination for equipment within low-voltage systems - Part 3: Use of coating, potting or moulding for protection against pollution	EN 60664-3	2003
IEC 60664-5	2007	Insulation coordination for equipment within low-voltage systems - Part 5: Comprehensive method for determining clearances and creepage distances equal to or less than 2 mm	EN 60664-5	2007
IEC 60695-2-11	2000	Fire hazard testing - Part 2-11: Glowing/hot-wire based test methods - Glow-wire flammability test method for end-products	EN 60695-2-11	2001
IEC 60695-10-2	2003	Fire hazard testing - Part 10-2: Abnormal heat - Ball pressure test	EN 60695-10-2	2003

Publication	Year	Title	EN/HD	Year
IEC 60947-5-4	2002	Low-voltage switchgear and controlgear - Part 5-4: Control circuit devices and switching elements - Method of assessing the performance of low-energy contacts - Special tests	EN 60947-5-4	2003
IEC 60999-1	1999	Connecting devices - Electrical copper conductors - Safety requirements for screw-type and screwless-type clamping units - Part 1: General requirements and particular requirements for clamping units for conductors from 0,2 mm² up to 35 mm² (included)	EN 60999-1	2000
IEC 61000-4-2	2008	Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test	EN 61000-4-2	2009
IEC 61000-4-3	2006	Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test	EN 61000-4-3	2006
IEC 61000-4-4	2004	Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test	EN 61000-4-4	2004
IEC 61000-4-5	2005	Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test	EN 61000-4-5	2006
IEC 61000-4-6	2008	Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields	EN 61000-4-6	2009
IEC 61000-4-8	2009	Electromagnetic compatibility (EMC) - Part 4-8: Testing and measurement techniques - Power frequency magnetic field immunity test	EN 61000-4-8	2010
IEC 61000-4-11	2004	Electromagnetic compatibility (EMC) - Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests	EN 61000-4-11	2004
IEC 61210 (mod)	2010	Connecting devices - Flat quick-connect terminations for electrical copper conductors - Safety requirements	EN 61210	2010
IEC 61810-1	2008	Electromechanical elementary relays - Part 1: General requirements	EN 61810-1	2008
IEC 61984	2008	Connectors - Safety requirements and tests	EN 61984	2009
IEC 62314	2006	Solid-state relays	EN 62314	2006
CISPR 11 (mod) + A1	2009 2010	Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement	EN 55011 + A1	2009 2010
CISPR 22 (mod)	2008	Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement	EN 55022	2010

Annex ZZ
(informative)

Coverage of Essential Requirements of EC Directives

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and within its scope the standard covers all relevant essential requirements as given in Article 1 of Annex I of EC Directive 2004/108/EC.

Compliance with this standard provides one means of conformity with the specified essential requirements of the Directive concerned.

WARNING: Other requirements and other EC Directives may be applicable to the products falling within the scope of this standard.

IEC 61812-1

Edition 2.0 2011-05

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Time relays for industrial and residential use – Part 1: Requirements and tests

Relais à temps spécifié pour applications industrielles et résidentielles – Partie 1: Exigences et essais

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

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CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

TIME RELAYS FOR INDUSTRIAL AND RESIDENTIAL USE –

Part 1: Requirements and tests

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 61812-1 has been prepared by IEC technical committee 94: All-or-nothing electrical relays.

This second edition cancels and replaces the first edition published in 1996. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

– update of references;
– addition of terms and definitions more commonly used by industry;
– addition of timing charts to help explain terms and definitions involving a sequence of events;
– renumbering of clauses to bring them into a more logical order;
– addition of provisions for residential use.

The text of this standard is based on the following documents:

FDIS	Report on voting
94/324/FDIS	94/333/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of the IEC 61812 series can be found, under the general title *Time relays for industrial and residential use*, on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

TIME RELAYS FOR INDUSTRIAL AND RESIDENTIAL USE –

Part 1: Requirements and tests

1 Scope

This part of the IEC 61812 applies to time relays for industrial applications (e.g. control, automation, signal and industrial equipment).

It also applies to time relays for automatic electrical controls for use in, on, or in association with equipment for residential and similar use.

The term "relay" as used in this standard comprises all types of relays with specified time functions, other than measuring relays.

NOTE Depending on the field of application of these relays (for example automatic electrical controls for household and similar use, switches for household and similar fixed electrical installations), further standards may be applicable, for example IEC 60730-2-7 or IEC 60669-2-3.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60050-444:2002, *International Electrotechnical Vocabulary – Part 444: Elementary relays*

IEC 60050-445:2010, *International Electrotechnical Vocabulary – Part 445: Time relays*

IEC 60068 (all parts), *Environmental testing*

IEC 60068-2-2:2007, *Environmental testing – Part 2-2: Tests – Test B: Dry heat*

IEC 60068-2-6:2007, *Environmental testing – Part 2-6: Tests – Test Fc: Vibration (sinusoidal)*

IEC 60068-2-27:2008, *Environmental testing – Part 2-27: Tests – Test Ea and guidance: Shock*

IEC 60085:2007, *Electrical insulation – Thermal evaluation and designation*

IEC 60112:2003, *Method for the determination of the proof and the comparative tracking indices of solid insulating materials*

IEC 60529:1989, *Degrees of protection provided by enclosures (IP Code)*

IEC 60664 (all parts), *Insulation coordination for equipment within low-voltage systems*

IEC 60664-1:2007, *Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests*

IEC 60664-3:2003, *Insulation coordination for equipment within low-voltage systems – Part 3: Use of coating, potting or moulding for protection against pollution*